

**AMENDMENT TO THE CLAIMS**

*The following claim listing replaces all prior listings and versions of the claims:*

**LISTING OF CLAIMS**

1. (Currently Amended) A heat exchanger, wherein  
a plurality of substrates are stacked, the plurality of substrate having: a plurality of long plates arranged in parallel, the long plates extending longitudinally; slits disposed between the long plates, the slits extending longitudinally and continuously; and recesses longitudinally and continuously disposed in one-side of main surfaces of some of the long plates, the recesses being disposed in parallel to the long plates and the slits,  
the long plates of the adjacent substrates are interconnected to form tubes,  
the recesses form tube internal flow channels, [[and]]  
the slits form tube external flow channels,  
holding plates for holding the long plates at the both ends of the long plates and long holes formed inside the holding plates are disposed on the substrate,  
extensions of the recesses formed in one-side main surfaces of some of the long plates communicate with the long holes,  
the long holes in the adjacent substrates are interconnected to form branch flow channels,  
and  
the tube internal flow channels formed of the recesses are connected to the branch flow channels.

2. (Withdrawn) The heat exchanger of claim 1, wherein, substrates having a plurality of long plates arranged in parallel and slits disposed between the long plates, and other substrates having a plurality of long plates arranged in parallel, slits disposed between the long plates, and recesses disposed longitudinally continuously in one-side main surfaces of the long plates are alternately stacked.

3. (Cancelled)

4. (Withdrawn) The heat exchanger of claim 1 or claim 2, wherein, thickness of some of the long plates is set to be smaller than that of the holding plates, clearances are formed between the tubes also in a stacking direction of the substrates, and tube external flow channels are formed also between the substrates.

5. (Withdrawn) The heat exchanger of claim 1 or claim 2, wherein, the substrates are made of resin.

6. (Currently Amended) The heat exchanger of claim [[3]] 1, wherein, lids for covering the long holes are disposed at opposite ends of the stacked substrates, and part of the lids has one of an inflow tube and an outflow tube.

7. (Withdrawn) The heat exchanger of claim 4, wherein, fluid in the tube external flow channels is made to flow in a plane direction the substrates.

8. (Currently Amended) [[A]] The manufacturing method of the heat exchanger of claim 1, wherein,

the substrates are bonded and stacked by welding.

9-19. (Cancelled)

20. (Previously Presented) The heat exchanger of claim 1, wherein liquid flows longitudinally in the tube internal flow channel formed by the recesses.

21. (Currently Amended) A heat exchanger, wherein  
a plurality of substrates are stacked, the plurality of substrate having: a plurality of long plates arranged in parallel, the long plates extending longitudinally; slits disposed between the long plates, the slits extending longitudinally and continuously; and recesses longitudinally and continuously disposed in one-side of main surfaces of some of the long plates, the recesses being disposed in parallel to the long plates and the slits,

the long plates of the adjacent substrates are interconnected to form tubes,

the recesses form tube internal flow channels,

the slits form tube external flow channels, and

The heat exchanger of claim 1, wherein only one slit is disposed between the long plates.

22. (New) The heat exchanger of claim 21, wherein the substrates are bonded and stacked by welding.

23. (New) The heat exchanger of claim 21, wherein liquid flows longitudinally in the tube internal flow channel formed by the recesses.